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REMARKS

Applicant requests reconsideration of the present application in view of the foregoing amendments and the discussion that follows. The status of the claims is as follows. Claims 1-70 are pending. The Examiner has withdrawn claims 26-70 from consideration. Claims 1, 2, 7, 8, 12-14 and 23-24 have been amended herein.

Restriction Requirement

Applicant acknowledges that the Examiner has made the original restriction requirement final and that the Examiner has indicated that the delineated inventions of the original restriction requirement are, in fact, patentably distinct.

Information Disclosure Statement

The Examiner contends that the listing of references in the specification is not a proper information disclosure statement and that 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office. Further, the Examiner asserts that MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, states the Examiner, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Applicant respectfully requests clarification of the above assertions. Applicant has submitted an Information Disclosure Statement with a listing of references (Form PTO-1449). As a matter of fact, the Office Action includes the list of references submitted by Applicant with the Information Disclosure Statement on Form PTO-1449 where the Examiner has initialed in the left margin and indicated a date considered, namely, 1/6/03.

The Amendment

Claim 1 was amended to recite that the support has dimensions of about 0.5 inches to about 1.5 inches by about 0.5 inches to about 1.5 inches or by about 2.0 inches to about 4.0 inches and a thickness of about 0.030 to about 0.05 inches. Support therefor is in the Specification, for example, page 10, lines 7-17. It should be noted that the present specification discloses that the support may have any shape including, for example, square, rectangular, circular, oval, parabolic or the like.

Accordingly, the recitation of dimensions in Claim 1 is not intended to limit the support to any particular shape.

Claim 1 was also amended to recite that a support is in a well of said housing. Support therefor is in the Specification, for example, page 9, lines 3-4. Claim 1 was further amended to address other issues raised by the Examiner in the rejection under 35 U.S.C. 112.

Claim 2 was amended to recite "reduce or eliminate" wicking of the liquid from the well. Support therefor is in the Specification, for example, page 13, lines 2-3.

Claims 7, 8 and 12-14 were amended to address issues raised by the Examiner in the rejection under 35 U.S.C. 112.

Claim 23 was amended to recite that the slope of the partially sloped wall is not constant. Support therefor is in the Specification, for example, page 23, line 20.

Claim 24 was amended to recite that the housing comprises a single well. Support therefor is in the Specification, for example, Figs. 1-15.

Rejection under 35 U.S.C. §112

Claims 1-25 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant submits that all of the specific rejections under the above code section have been obviated by the above amendments with the exception of the rejection of Claims 22-23, which is addressed below.

Claims 22 and 23 were rejected as vague and indefinite for reciting process limitations in a device claim. The Examiner contends that, in device claims, only the elements of the device are given patentable weight, and process limitations are not interpreted as further limiting the device in any way.

Applicant is unclear as to what language in Claims 22-23 constitutes process limitations. Claim 22 recites that the slope of the partially sloped wall is constant. This means that the sloped wall has a constant slope. The limitation is to an element of the device and is not a process limitation. The aforementioned discussion applies equally to Claim 23.

Rejection under 35 U.S.C. §102

Claims 1-3, 5-6, 8-9, 11-16 and 19-24 were rejected under 35 U.S.C. 102(b) as being anticipated by Earley, *et al.* (WO 94/08759 A1) (Earley). The Examiner characterizes the disclosure of the reference as follows: The reference discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. The reference also discloses the use of lids with the microtiter plate. Further, the microtiter plate is used to perform DNA sequencing reactions. As such, sample with DNA is loaded into the wells of the plate, such that the bottom surface of the well (support) will comprise or contact DNA molecules.

In order to maintain a rejection under 35 U.S.C. §102(b), the Examiner must first establish a *prima facie* case of anticipation. An invention is anticipated if each and every limitation of the claimed invention is disclosed in a single prior art reference. *In re Paulsen*, 30 F.3d 1475, 1478, 31 U.S.P.Q.2d 1671, 1673 (Fed. Cir. 1994). In the present situation Earley does not disclose each and every element of the claimed invention. For example, the Examiner acknowledges that Earley fails to disclose specific dimensions of a device such as size. Earley does not disclose or suggest the present invention. As indicated on page 7, lines 10-11, Earley's disclosure relates only to standard ninety six well microtiter plates having a capacity of about 300 microliters. 103?

Claims 1-3, 5-6, 8-9, 11-16 and 19-23 were rejected under 35 U.S.C. 102(b) as being anticipated by Pedley (GB 2 197 720 A). The Examiner contends that Pedley discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. In addition, continues the Examiner, the reference discloses the immobilization of polynucleotides to the wells of the plate (abstract).

Pedley does not disclose or suggest the present invention. As indicated, for example, on page 6, lines 19-21, Pedley prefers microtiter plates having 96 wells because these are stock equipment in most laboratories.

Claims 1-3, 5-6, 8-9, 11-16 and 19-23 were rejected under 35 U.S.C. 102(b) as being anticipated by Balch (U.S. Patent No. 6,083,763). The Examiner asserts that Balch discloses a microtiter plate comprising multiple wells, which, when given

their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. In addition, contends the Examiner, the reference discloses that the plate may comprise DNA probes.

Balch does not disclose or suggest the present invention. As indicated, for example, in Fig. 4, Balch primarily focuses on standard 96/384 well microtiter plates.

Claims 1-3, 5-6, 8-9, 11-16, 19 and 22-24 were rejected under 35 U.S.C. 102(b) as being anticipated by Daniel (U.S. Patent No. 4,919,894). Again, the Examiner argues that the reference discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. In addition, asserts the Examiner, Daniel discloses a cover that sits over the microtiter plate to reduce cross-infection between samples and infection from the air.

Daniel does not disclose or suggest the present invention. As indicated, for example, in column 1, lines 16-19, Daniel refers to typical plates that contain 8X12 horizontal and vertical rows totaling 96 individual microwells.

Claims 1-3, 5-6, 8-9, 11-16, 19 and 22-23 were rejected under 35 U.S.C. 102(b) as being anticipated by Matkovich, *et al.* (U.S. Patent No. 4,828,386) (Matkovich). The Examiner contends that Matkovich discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge.

Matkovich does not disclose or suggest the present invention. As indicated, for example, in the Abstract, Matkovich's disclosure relates to multiwell plates. At column 3, lines 7-10, Matkovich indicates that the basic multiwell plate of the invention resembles known multiwell plates. Such known plates include multiwell plates containing 96 wells arranged in an 8 X 12 pattern.

Claims 1-3, 5-6, 8-9, 11-16, 19 and 22-23 were rejected under 35 U.S.C. 102(b) as being anticipated by Calenoff, *et al.* (U.S. Patent No. 4,844,966). The Examiner contends that the reference discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. The Examiner contends that Calenoff also discloses well inserts.

Calenoff does not disclose or suggest the present invention. As indicated, for example, in the Abstract, Calenoff's disclosure relates to multiwell plates. At column

5, lines 4-6, Calenoff indicates that a particularly advantageous support for his procedure comprises a microtiter plate having a plurality of wells.

Claims 1-3, 5-6, 8-9, 11-16, 19 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Provonchee (US Pat. 4,701,754). The Examiner contends that Provonchee discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. The Examiner argues further that the reference also discloses that the wells do not necessarily have to form part of an integral unit, but may be independently removable from a supporting rack and that the configuration of the wells in either case is preferably an array of one or more rows.

Provonchee does not disclose or suggest the present invention. As indicated, for example, at column 1, lines 20-22, and column 2, line 12, Provonchee's disclosure relates to conventional microtiter plates or trays.

Claims 1-3, 5-6, 8-16, 19 and 22-24 were rejected under 35 U.S.C. 102(b) as being anticipated by Cassin, *et al.* (U.S. Patent No. 5,910,287)(Cassin). The Examiner asserts that the reference discloses a microtiter plate comprising multiple wells, which, when given their broadest reasonable interpretation, reads on claims drawn to a device with a housing, a support, wells with sloped walls, and a ledge. In addition, continues the Examiner, Cassin discloses that the wells of the reference may be made in any crosssectional shape, including square and that the walls of the wells may be completely vertical or may be conical. The Examiner further contends that the reference also discloses cycloolefins that may comprise part of a plate cover.

Cassin does not disclose or suggest the present invention. As indicated, for example, in the Abstract, Cassin's disclosure relates to multiwell plates with greater than 864 wells that comprise a layer of cycloolefin.

Rejection under 35 U.S.C. §103

Claims 4, 7, 10, 17-18 and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Earley, Pedley, Balch, Daniel, Matkovich, Calenoff, or Provonchee. The Examiner argues that the references all teach microtiter plate devices, as previously set forth by the Examiner. However, continues the Examiner, the references do not teach the specific dimensions of the device, such as size

(height, length, width, angles) nor do they teach rectangular ledges. However, despite these deficiencies, the Examiner asserts that it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to modify the dimensions of the devices of Earley, Pedley, Balch, Daniel, Matkovich, Calenoff, or Provonchee to the specific lengths, widths, and angle sizes required by the present claims. The Examiner argues that one would have been motivated to do so because Matkovich teaches that a microtiter plate may be adapted for specific purposes. In addition, continues the Examiner, it would have been an obvious matter of design choice since such a modification would have involved a mere change in the size of components. The Examiner then asserts that a change in size is generally recognized as being within the level of ordinary skill in the art, citing *In re Rose*, 105 USPQ 237 (CCPA 1955). It would have also been obvious, continues the Examiner, to use a rectangular ledge for the plate, as opposed to a circular one, as such a modification is a simple optimization of the assay device and is not thought to change the device in any substantial manner.

First, all of the above references teach multiwell plates, generally those conventional or known in the art. The present device differs from the disclosures of the references by more than merely size as alleged by the Examiner. None of the references discloses or suggests that wicking of liquid from a well has any relationship to the geometry of the well. The Examiner refers to Matkovich as teaching that a microtiter plate may be adapted for specific purposes. However, the disclosure of Matkovich is concerned with inserts for multiwell microtiter plates. At column 3, lines 34-36, Matkovich states that the configuration of the multiwell plate is not important to his invention and any of the known configurations can be used. The only specific purpose mentioned by Matkovich is to accommodate and retain his inserts.

There is no disclosure or suggestion in Matkovich regarding a well having walls and at least one wall extending from an area adjacent an edge of the well where a height of the walls is at least great enough, and a design of the at least one wall being such, that liquid contained in the well is not drawn out of the well. As Applicant explained in the Specification, previously, hybridizing reactions in DNA microarrays has been done either 1) in a small sealed volume, 2) under a coverslip on a microscope slide or 3) with a larger sample volume in a plastic bag. There are difficulties with all of the above approaches. One difficulty arises because of the very

small volumes of liquids employed. Because of the small volumes of liquids used and the relatively large size of the supports, wicking or other movement of liquid in a well in which the support is placed has serious consequences on the reliability of the hybridization results. Applicant discovered that wicking or other movement of the liquid from the well may be controlled by the height of the walls of the well and/or by the avoidance of sharp corners or angles adjacent the edge of the well. In this way reliable results may be obtained with a relatively small volume of liquid in contact with the support in the well of the device of the invention. *was part results den?*

dec. 13/14/15 purpose
Applicant submits that, in order for one to modify the deficient teachings of the reference to achieve the device of the present invention, one would have to use Applicant's disclosure because the references do not teach anything relevant to the wicking problem addressed by Applicant. As has been held, there must be some suggestion, motivation or teaching in the prior art whereby the person of ordinary skill would have selected the components that the inventor selected and used to make the new device (*C.R. Bard, Inc. v M3 Systems, Inc.*, 157 F.3d 1340, 48 U.S.P.Q.2d 1225 (Fed. Cir. 1998), *cert. denied*, 67 U.S.L.W. 3715 (1999)). The Examiner alleges that Matkovich provides the motivation for modifying the teachings of the references in the fanciful manner in which the Examiner has done. Applicant submits that this motivation is not sufficient to suggest the present invention to one of ordinary skill in the art. To assert that this teaching provides the motivation for combining the teaching of the references in the manner in which the Examiner has done to create the presently claimed invention goes far beyond the actual teaching of the Matkovich reference. *no motiv.*

In addition, the Examiner appears to be using Applicant's disclosure in support of the rejection. "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fritch*, 972 F.2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992) (quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)).

It is Applicant's teaching and invention to avoid wicking by controlling the height of the walls of the well and/or by the avoiding sharp corners or angles adjacent the edge of the well. Accordingly, the holding in *In re Rose*, *supra*, is not

applicable since the present invention goes far beyond mere differences in size of an article of manufacture.

For the reasons set forth above, Claims 1-25 including Claims 4, 7, 10, 17-18 and 25 are not rendered obvious by the teachings of Earley, Pedley, Balch, Daniel, Matkovich, Calenoff, or Provonchee.

Claims 4, 7, 17-18, and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cassin. The Examiner contends that the reference teaches a microtiter plate, as previously discussed. The Examiner asserts that the reference does not teach the specific dimensions of the device, such as size (height, length, width, angles). It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention, contends the Examiner, to modify the dimensions of the device of Cassin to the specific lengths, widths, and angle sizes required by the present claims. The Examiner contends that it would have been an obvious matter of design choice, since such a modification would have involved a mere change in the size of components.

For the reasons set forth above with respect to the rejection of Claims 4, 7, 10, 17-18 and 25 under 35 U.S.C. 103(a) as being unpatentable over Earley, Pedley, Balch, Daniel, Matkovich, Calenoff, or Provonchee, Claims 4, 7, 10, 17-18 and 25 would not have been obvious to one of ordinary skill in the art at the time of Applicant's invention.

Conclusion

Claims 1-25 satisfy the requirements of 35 U.S.C. §§112, 102 and 103. The Specification has been amended as requested by the Examiner. Allowance of the above-identified patent application, it is submitted, is in order.

Respectfully submitted,


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